WE CLAIM:

1. A pharmaceutical composition, comprising:

(a) a therapeutically effective amount of a radioactive arsenic-containing compound, said radioactive arsenic-containing compound being prepared by a process comprising the steps of:

(i) subjecting an arsenic-containing compound selected from a group consisting of As_2O_3, As_2S_3, As_2S_2, and a combination thereof to a neutron irradiation treatment such that the arsenic element contained in said arsenic-containing compound is converted to a radioactive arsenic isotope; and

(ii) recovering the resultant product from step (i); and

(b) a pharmaceutically acceptable carrier.

2. The pharmaceutical composition according to claim 1, wherein said radioactive arsenic-containing compound can emit γ particles and β particles.

3. The pharmaceutical composition according to claim 1, wherein said radioactive arsenic-containing compound contains an ^{76}As isotope.

4. The pharmaceutical composition according to claim 1, wherein said radioactive arsenic-containing compound is As_2O_3 having subjected to the neutron irradiation treatment.

5. The pharmaceutical composition according to claim 1, which is formulated into an injection formulation.

6. A process for preparing a radioactive arsenic-containing compound, comprising the steps of:

(i) subjecting an arsenic-containing compound selected from a group consisting of As_2O_3, As_2S_3, As_2S_2, and a combination thereof to a neutron irradiation treatment such that the arsenic element contained in said arsenic-containing compound is converted to a radioactive arsenic isotope; and

(ii) recovering the resultant product from step (i).

7. The process according to claim 6, wherein the resultant product recovered in step (ii) can emit γ particles and β particles.

8. The process according to claim 6, wherein the resultant product recovered by step (ii) contains an ^{76}As isotope.

9. The process according to claim 6, wherein said arsenic-containing compound used in step (i) is As_2O_3.

10. A pharmaceutical composition for treating a tumor or cancer, comprising

(a) a therapeutically effective amount of a radioactive arsenic-containing compound prepared by the process of claim 6; and

(b) a pharmaceutically acceptable carrier.

11. The pharmaceutical composition of claim 10, wherein the tumor or cancer is selected from a group consisting of hematological malignancies and solid tumors.

12. The pharmaceutical composition according to claim

11, wherein the solid tumors are selected from a group consisting of breast cancer, rectal cancer, liver tumor, ovarian cancer and prostate cancer.

13. The pharmaceutical composition according to claim 12, wherein the liver tumor is selected from a group consisting of hepatocellular carcinoma, cholangiocarcinoma, liver cell carcinoma, fibrolamellar variant of hepatocellular carcinoma, intrahepatic bile duct carcinoma, mixed hepatocellular cholangicocarinomoa, undifferentiated hepatocellular carcinoma, hepatoma with tumor invasion to common bile duct, hepatoblastoma, childhood hepatic tumor and primary hepatocellular carcinoma.

14. The pharmaceutical composition according to claim 10, which is formulated into an injection formulation.

15. The pharmaceutical composition according to claim 10, wherein said radioactive arsenic-containing compound can emit γ particles and β particles.

16. The pharmaceutical composition according to claim 10, wherein said radioactive arsenic-containing compound is As_2O_3 having subjected to the neutron irradiation treatment.

17. The pharmaceutical composition according to claim 10, wherein said radioactive arsenic-containing compound contains an ^{76}As isotope.